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Effects of Spin-Orbit Interaction on Surface Superconductivity *

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We consider spin-orbital splitting of the energy spectrum of the surface superconductivity induced in the field-effect-transistor geometry or at surface doping with adsorbed atoms. Spin-orbit interactions lift the spin degeneracy of the BCS-like state resulting in the two gapped branches. Conditions for such effects to arise, and their manifestations, are discussed. In particular, the anisotropy of the Knight shift in the superconducting state was calculated for the in-plane magnetic field and for the field perpendicular to the surface.

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